

IN THE CLAIMS:

1. A peptide having a molecular weight of less than about 8000 daltons, and comprising a sequence of amino acids
5 (SEQ ID NO:2):

$X_1 X_2 X_3 X_4 X_5 X_6 X_7$

where X_1 is C, L, M, P, Q, V; X_2 is F, K, L, N, Q, R, S, T or V; X_3 is C, F, I, L, M, R, S, V or W; X_4 is any of the 20 genetically coded L-amino acids; X_5 is A, D, E, G, K, M, Q, R,
10 S, T, V or Y; X_6 is C, F, G, L, M, S, V, W or Y; and X_7 is C, G, I, K, L, M, N, R or V;

and having a detectable label covalently attached to said peptide.

- 15 2. A peptide according to claim 1, wherein from zero to all of the $-C(O)NH-$ linkages of the peptide have been replaced by a linkage selected from the group consisting of a $-CH_2OC(O)NR-$ linkage; a phosphonate linkage; a $-CH_2S(O)_2NR-$ linkage; a $-CH_2NR-$ linkage; a $-C(O)NR^6-$ linkage; and a $-NHC(O)NH-$ linkage; and wherein R is hydrogen or lower alkyl
20 and R^6 is lower alkyl,
further wherein the N-terminus of said peptide is selected from the group consisting of a $-NRR^1$ group; a $-NRC(O)R$ group; a $-NRC(O)OR$ group; a $-NRS(O)_2R$ group; a $-NHC(O)NHR$ group; a
25 succinimide group; a benzyloxycarbonyl-NH- group; and a benzyloxycarbonyl-NH- group having from 1 to 3 substituents on the phenyl ring selected from the group consisting of lower alkyl, lower alkoxy, chloro, and bromo;

and wherein R and R^1 are independently selected from the
30 group consisting of hydrogen and lower alkyl,

and still further wherein the C-terminus of said peptide has the formula $-C(O)R^2$ where R^2 is selected from the group consisting of hydroxy, lower alkoxy, and $-NR^3R^4$ where R^3 and R^4 are independently selected from the group consisting of
35 hydrogen and lower alkyl and where the nitrogen atom of the -

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NR³R⁴ group can optionally be the amine group of the N-terminus of the peptide so as to form a cyclic peptide, and physiologically acceptable salts thereof.

5 3. A peptide according to claim 1, wherein said detectable label is selected from the group consisting of radioisotopes, enzymes and fluorescent labels.

10 4. A peptide according to claim 1, wherein said label is attached to said peptide using a spacer.

5. A peptide according to claim 1, wherein the peptide comprises the sequence of amino acids (SEQ ID NO:14):

C X₂ X₃ X₄ X₅ X₆ X₇

15 Where X₂ is F, K, L, N, Q, R, S, T or V; X₃ is C, F, I, L, M, R, S or V; X₄ is any of the 20 genetically coded L-amino acids; X₅ is A, D, E, G, S, V or Y; X₆ is C, F, G, L, M, S, V, W or Y; and X₇ is C, G, I, K, L, M, N, R or V.

20 6. A peptide according to claim 5, wherein X₄ is A, E, G, H, K, L, M, P, Q, R, S, T, or W.

25 7. A peptide according to claim 6, wherein X₂ is S or T; X₃ is L or R; X₄ is R; X₅ is D, E, or G; X₆ is F, L, or W; and X₇ is I, K, L, R, or V.

8. A peptide according to claim 1, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:16):

X₈ C X₂ X₃ X₄ X₅ X₆ X₇

30 where X₂ is F, K, L, N, Q, R, S, T or V; X₃ is C, F, I, L, M, R, S, V or W; X₄ is any of the 20 genetically coded L-amino acids; X₅ is A, D, E, G, K, M, Q, R, S, T, V or Y; X₆ is C, F, G, L, M, S, V, W or Y; X₇ is C, G, I, K, L, M, N, R or V; and X₈ is any of the 20 genetically coded L-amino acids.

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9. A peptide according to claim 8, wherein X₈ is G, S, Y or R.

10. A peptide according to claim 8, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:15): G G C T L R E W L H G G F C G G.

11. A peptide according to claim 1, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:3):

10 X₈ G X₁ X₂ X₃ X₄ X₅ W X₇

where X₁ is L, M, P, Q, or V; X₂ is F, R, S, or T; X₃ is F, L, V, or W; X₄ is A, K, L, M, R, S, V, or T; X₅ is A, E, G, K, M, Q, R, S, or T; X₇ is C, I, K, L, M or V; and X₈ is any of the 20 genetically coded L-amino acids.

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12. A peptide according to claim 11, wherein X₁ is P; X₂ is T; X₃ is L; X₄ is R; X₅ is E or Q; X₇ is I or L (SEQ ID NO:4).

20 13. A peptide according to claim 12, wherein said peptide comprises a sequence of amino acids (SEQ ID NO:5):

X₉ X₈ G X₁ X₂ X₃ X₄ X₅ W X₇

where X₈ is A, C, D, E, K, L, Q, R, S, T, or V; and X₉ is A, C, E, G, I, L, M, P, R, Q, S, T, or V.

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14. A peptide according to claim 13, wherein X₈ is D, E, or K; and X₉ is A or I.

15. A peptide according to claim 14, wherein said amino acid sequence is selected from the group consisting of (SEQ ID NOs 6-13, respectively): G G C A D G P T L R E W I S F C G G; G N A D G P T L R Q W L E G R R P K N; G G C A D G P T L R E W I S F C G G K; T I K G P T L R Q W L K S R E H T S; S I E G P T L R E W L T S R T P H S; L A I E G P T L R Q W L H G N G R D T; C A D G P T L R E W I S F C; and I E G P T L R Q W L A A R A.

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16. A compound having a detectable label covalently attached thereto, said compound selected from the group consisting of

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C A D G P T L R E W I S F C ; (SEQ ID NO:12)

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[Ac] - C A D G P T L R E W I S F C - [amide] ; (SEQ ID NO:12)

| _____ |

NO:12)

O = C A D G P T L R E W I S F C - NH₂ ; and (SEQ ID

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|
CH₂-----S

I E G P T L R Q W L A A R A (SEQ ID NO:17)

I E G P T L R Q W L A A R A (βala)-K [NH₂] (SEQ ID NO:18)

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17. A compound according to claim 16, wherein said detectable label is selected from the group consisting of radioisotopes, enzymes and flourescent labels.

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18. A compound according to claim 16, wherein said label is attached to said peptide using a spacer.